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Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for March and April—Summary Report

May 21, 2010

The **primary metals leading index** increased 3.3% in April to 148.6 from a revised 143.9 in March, and its 6-month smoothed growth rate jumped to 20.6% from a revised 16.6% in March. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. The primary metals leading index has generally increased since March 2009. Its growth rate has risen to a new recent high, similar to that of the recovery from the 1980-81 recession. Domestic economic conditions, particularly in the manufacturing sector, are positive enough to increase metals demand. However, concerns over possible government restraints on economic growth in China and euro-zone monetary difficulties are likely to hamper U.S. primary metals industry activity growth.

All four of the indicators that were available for the April index calculation increased. A nearly 1-hour longer average workweek in primary metals establishments contributed 1.8 percentage points to the overall increase in the leading index. The stock price index combining construction and farm machinery companies and industrial machinery companies advanced for the second consecutive month in April, contributing 1.1 percentage points. The PMI increased and made a 0.2-percentage-point contribution. The PMI is high above the threshold that signals an increase in future domestic manufacturing activity. The JOC-USGS metals price index growth rate also contributed 0.2 percentage points to the leading index. The April leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

The primary aluminum and the aluminum mill products indexes are suspended because of discontinued availability of industry-specific historical data. The USGS will continue to calculate the steel and copper composite indexes. These indexes are available through March. The steel leading index increased 2.5% in March, with eight of its nine indicators posting gains. A sharp increase in the S&P stock price index for steel companies made the largest contribution to the leading index. Upticks in car and light truck sales and average weekly hours worked in iron and steel plants boosted the steel index as well. Only the M2 money supply growth rate made a negative contribution. The soaring steel leading index growth rate is indicating that the recovery in U.S. steel industry activity could continue. The copper leading index increased 2.2% in March, with all of its indicators increasing. Average weekly hours for nonferrous metals manufacturing establishments

except aluminum made the largest contribution. Hefty rises in the copper price, the S&P stock price index for building products companies, and the index for new housing permits also made sizable contributions to the copper leading index. The copper leading index growth rate is indicating further activity growth in the domestic copper industry.

The **metals price leading index** decreased 0.6% to 114.5 in March, the latest month for which it is available, from a revised 115.2 in February. Its 6-month smoothed growth rate dropped to 7.4% in March from a revised 11.8% in February. Two of its four indicators declined, and two increased. The growth rate of the Organization for Economic Cooperation and Development (OECD) Total Leading Index decreased for the third consecutive month in March, contributing -0.6 percentage points to the net decline in the leading index. The growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar declined for the fifth month in a row in March. It pulled the leading index down another 0.1 percentage point. In contrast, an increase in the growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products offset some of those negative contributions by 0.1 percentage point. The yield spread between the U.S. 10-year Treasury Note and the federal funds rate was only slightly wider, and its contribution rounded to zero. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the inflation-adjusted value of U.S. nonferrous metal products inventories, which is an indicator of supply and usually moves inversely with the price of metals, increased in March. It still remains deep in negative territory. The negative inventories growth rate and the relatively high metals price leading index growth rate would normally indicate further metals price growth, however uncertain global economic conditions are likely to place downward pressure on metals price growth in the months directly ahead.

The percent changes from February to March for the **metal industry coincident indexes**, which measure current economic activity, are shown below. March is the latest month for which these indexes are available.

Primary Metals	1.9%
Steel	1.6%
Copper	3.9%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

The *Metal Industry Indicators* report is produced at the U.S. Geological Survey. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, gjames@usgs.gov) at the U.S. Geological Survey.

The *Metal Industry Indicators* summary report with indexes for April and May is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, June 18.

Table 1.
Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index, Inventories of Nonferrous Metal Products, and Selected Metal Prices

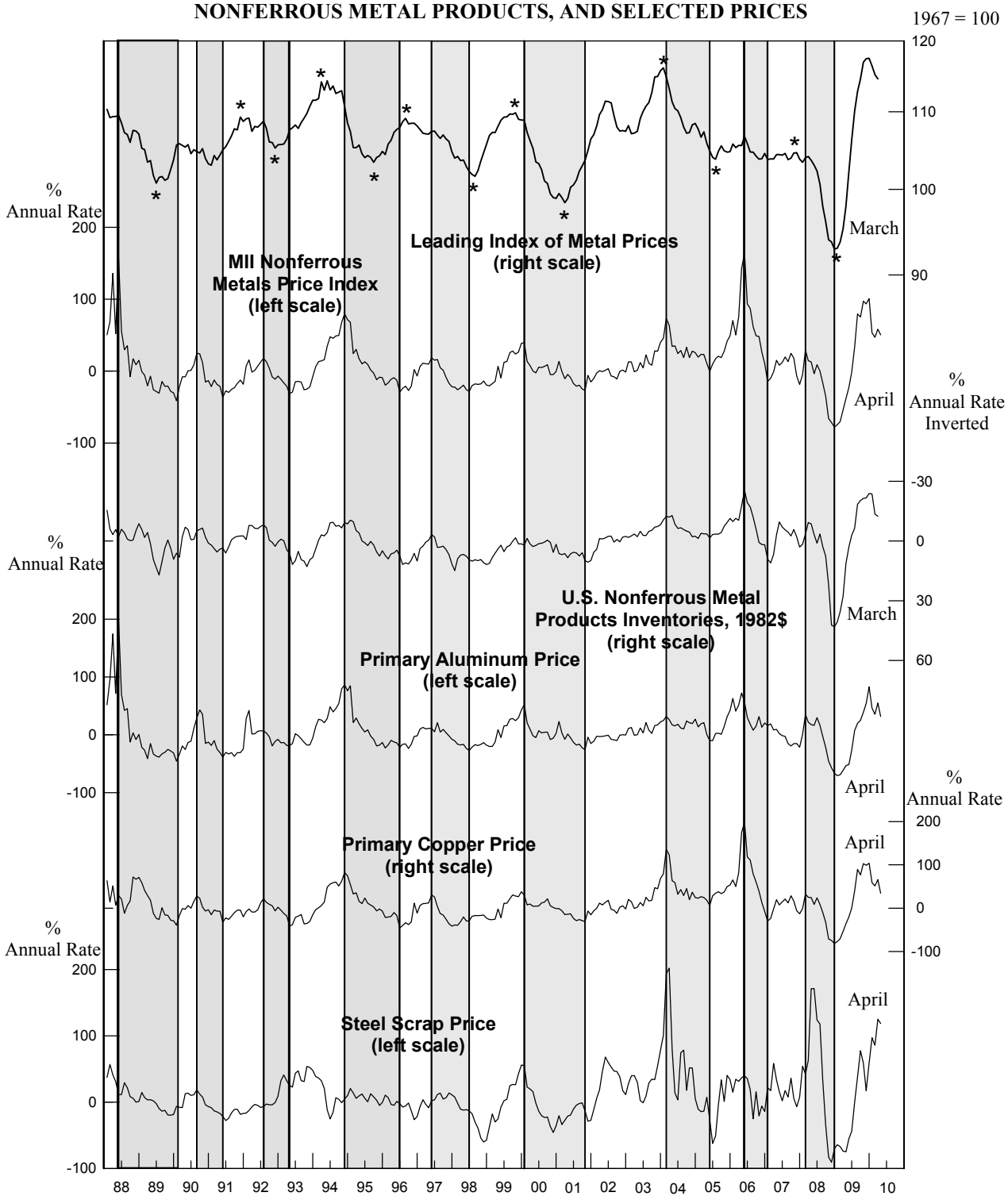
		Six-Month Smoothed Growth Rates				
	Leading Index of Metal Prices (1967=100)	MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982$)	Primary Aluminum	Primary Copper	Steel Scrap
2009						
March	95.2	-54.1	27.8	-61.6	-53.5	-74.0
April	98.0	-38.1	11.1	-53.4	-35.6	-74.9
May	102.2r	-22.6	2.9	-51.2	-19.8	-55.1
June	106.2r	-1.6	-2.9	-26.9	0.2	-44.0
July	110.1r	33.3	-6.5	7.2	39.7	-0.7
August	112.8r	79.3	-18.5	19.8	89.7	38.1
September	114.5r	75.2	-20.3	25.2	77.0	77.4
October	116.9r	97.3	-21.4	38.8	102.8	58.6
November	117.4r	93.4	-21.6r	54.2	98.9	17.2
December	117.5r	100.8	-23.9r	82.9	103.5	58.8
2010						
January	116.4r	53.2	-23.6r	46.2	59.0	96.9
February	115.2r	46.9	-13.6r	35.3	51.7	85.8
March	114.5	58.2	-12.5	55.0	66.0	125.1
April	NA	50.4	NA	31.7	34.6	118.1

NA: Not available **r:** Revised

Note: The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Organization for Economic Cooperation and Development (OECD) Total Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.

Sources: U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Organization for Economic Cooperation and Development (OECD); and Federal Reserve Board.

CHART 1.
LEADING INDEX OF METAL PRICES AND GROWTH RATES OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF NONFERROUS METAL PRODUCTS, AND SELECTED PRICES



Shaded areas are downturns in the nonferrous metals price index growth rate. Asterisks (*) are peaks and troughs in the economic activity reflected by the leading index of metal prices. Scale for nonferrous metal products inventories is inverted.

U.S. Geological Survey, May 2010

Table 2.
The Primary Metals Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2009				
May	124.6r	-13.4	79.7	-26.9
June	126.4r	-8.3	78.9	-25.1
July	129.0r	-2.1	82.1	-15.9
August	132.6r	5.4r	83.0	-10.7
September	133.7r	8.7r	83.0	-7.5
October	135.4r	12.3r	83.9	-2.7
November	138.8r	17.4r	86.8	6.3
December	141.7r	20.4r	89.0r	12.7r
2010				
January	141.8r	18.2r	89.3r	13.5r
February	141.6r	15.6r	90.6r	15.9r
March	143.9r	16.6r	92.3	18.6
April	148.6	20.6	NA	NA

NA: Not available **r:** Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 3.
The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month

Leading Index	**March**	**April**
1. Average weekly hours, primary metals (NAICS 331)	0.2	1.8
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	0.7r	1.1
3. Ratio of price to unit labor cost (NAICS 331)	0.2	NA
4. JOC-USGS metals price index growth rate	0.0	0.2
5. New orders, primary metal products, (NAICS 331 & 335929) 1982$	0.2	NA
6. Index of new private housing units authorized by permit	0.3	NA
7. Growth rate of U.S. M2 money supply, 2005$	-0.4	NA
8. PMI	0.4r	0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.6r	3.3

Coincident Index	**February**	**March**
1. Industrial production index, primary metals (NAICS 331)	0.1r	0.3
2. Total employee hours, primary metals (NAICS 331)	0.9r	0.8
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982$	0.3r	0.6
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.4r	1.8

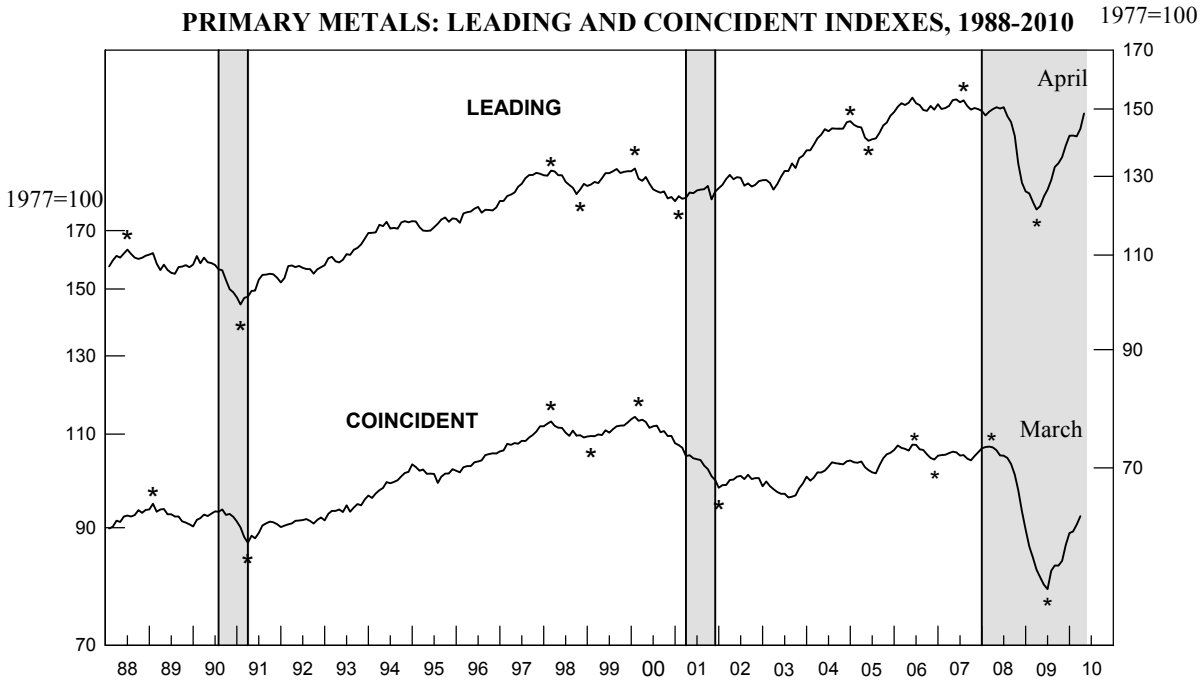
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 2, 3, and 4 of the leading index.

NA: Not available **r:** Revised

Note: A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

CHART 2.

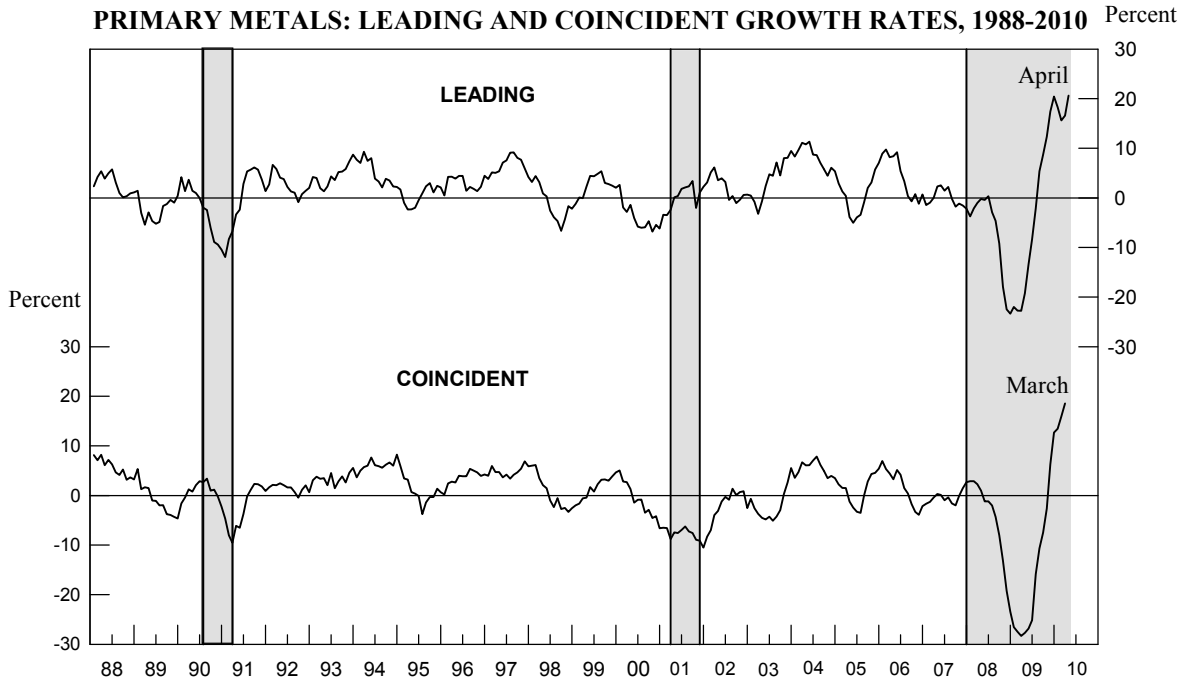
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1988-2010



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 3.

PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1988-2010



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Table 4.
The Steel Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2009				
April	99.3r	-15.6	80.7	-26.1
May	101.3	-9.8	80.3	-23.9
June	102.3r	-5.6	80.7	-20.3
July	101.6r	-4.2	82.9	-13.2
August	104.4r	3.0	84.3	-7.5
September	101.8r	-0.4	84.1	-5.1
October	104.2r	5.1r	87.3	4.4
November	105.3r	6.9r	88.8	9.6
December	107.0r	9.1r	90.8	14.7
2010				
January	107.5r	9.3r	91.8r	16.6r
February	107.7r	8.8r	92.2r	16.3r
March	110.4	12.6	93.7	18.2

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

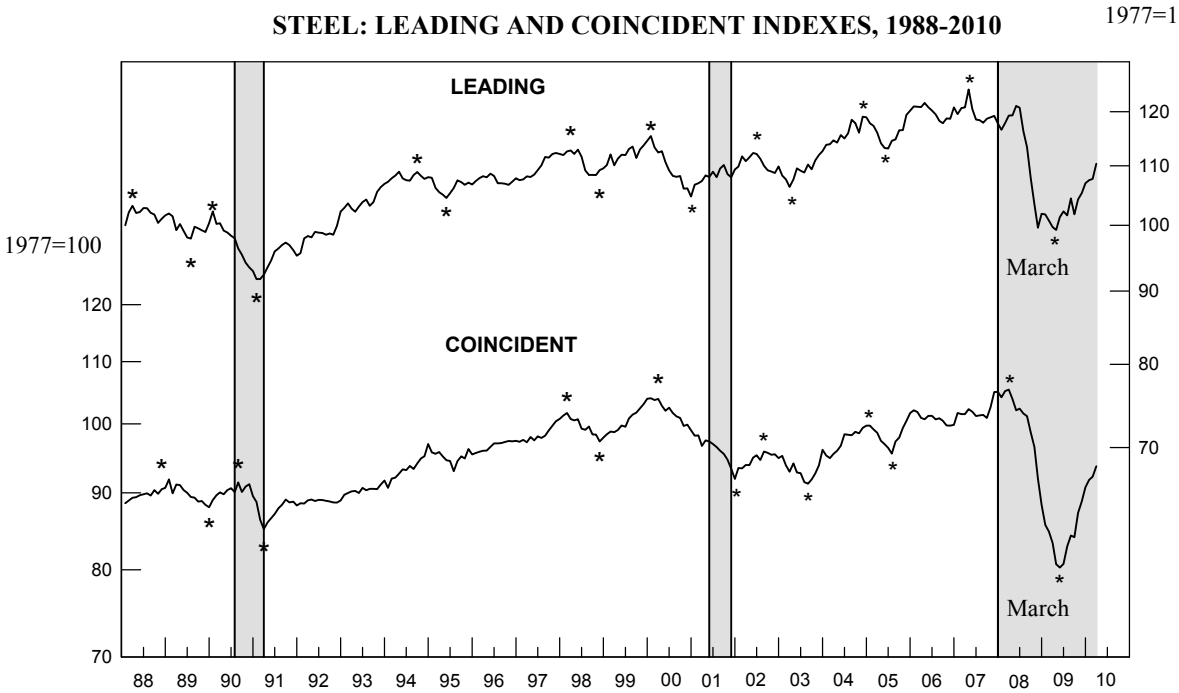
Table 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

Leading Index	**February**	**March**
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	-0.2	0.5
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982$	-0.1	0.0
3. Shipments of household appliances, 1982$	0.0	0.2
4. S&P stock price index, steel companies	-0.5	0.8
5. Retail sales of U.S. passenger cars and light trucks (units)	-0.1	0.6
6. Growth rate of the price of steel scrap (#1 heavy melting, $/ton)	0.6	0.1
7. Index of new private housing units authorized by permit	0.1	0.3
8. Growth rate of U.S. M2 money supply, 2005$	0.6	-0.4
9. PMI	-0.2	0.3
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.2	2.4
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	-0.1r	0.3
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982$	0.4r	0.3
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	0.1	0.9
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.5r	1.6

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

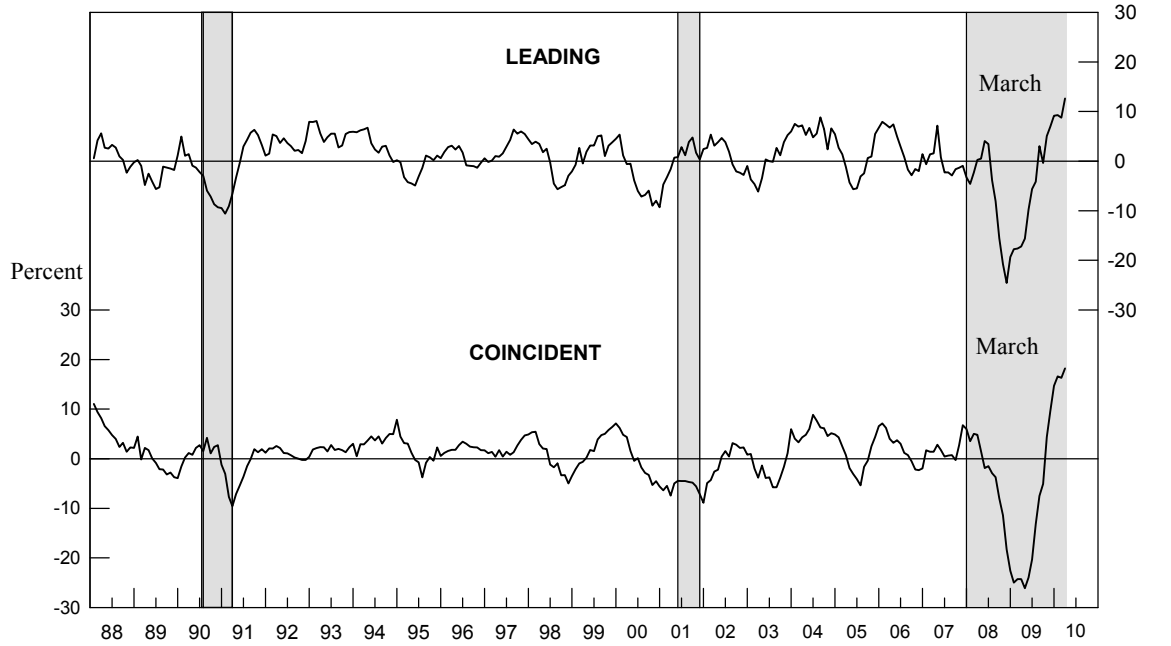
r: Revised

CHART 4.
STEEL: LEADING AND COINCIDENT INDEXES, 1988-2010



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 5.
STEEL: LEADING AND COINCIDENT GROWTH RATES, 1988-2010



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

U.S. Geological Survey, May 2010

Table 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2009				
April	107.0	-12.4	87.5	-19.7
May	108.1	-9.0	84.3	-23.3
June	109.3	-5.3	84.7	-20.6
July	112.4	1.8	86.1	-15.9
August	116.7	10.4	89.3	-7.8
September	116.5	10.6	90.4	-4.0
October	115.0	8.7	88.8	-5.1
November	121.2	19.4r	95.0	9.8
December	122.1	19.0	94.2	8.8
2010				
January	119.7	12.4	92.7r	6.1r
February	120.4r	12.0r	92.7	6.6r
March	123.0	14.3	96.3	14.2

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

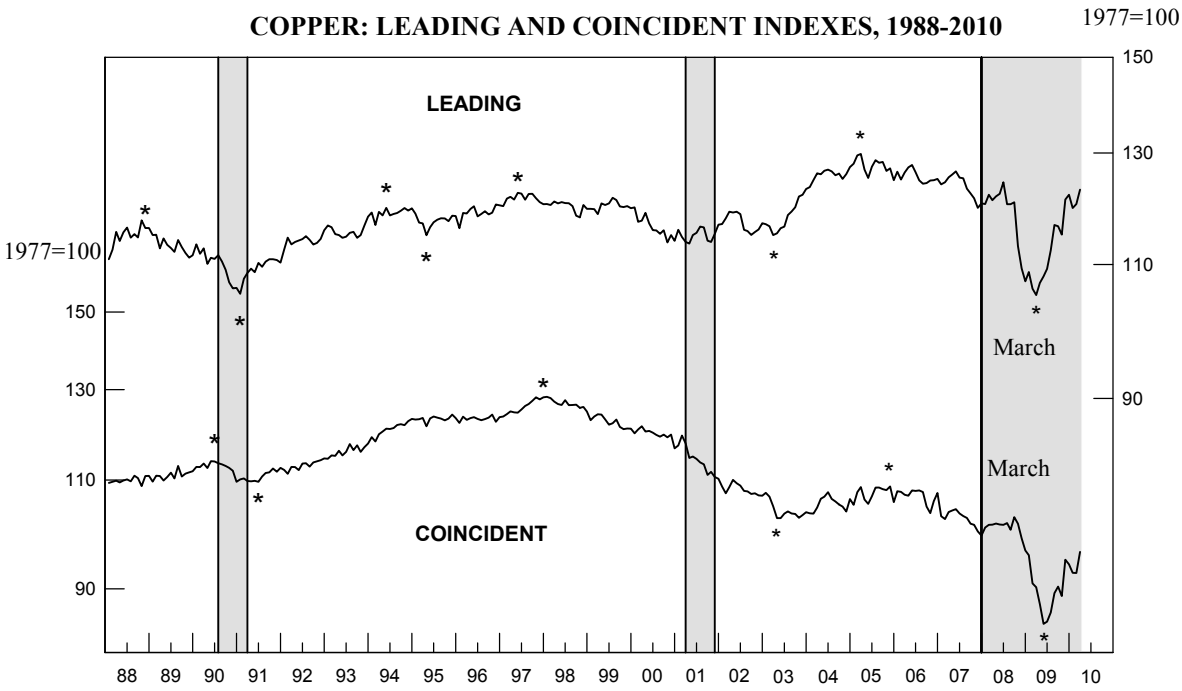
Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

	February	March
Leading Index		
1. Average weekly hours, nonferrous metals except aluminum (NAICS 3314)	0.2r	0.7
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982$	0.3	0.1
3. S&P stock price index, building products companies	-0.3	0.5
4. LME spot price of primary copper	0.2	0.5
5. Index of new private housing units authorized by permit	0.2	0.4
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	0.0	0.0
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.6r	2.2
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	0.1r	0.1
2. Total employee hours, nonferrous metals except aluminum (NAICS 3314)	-0.2	3.7
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.0r	3.9

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

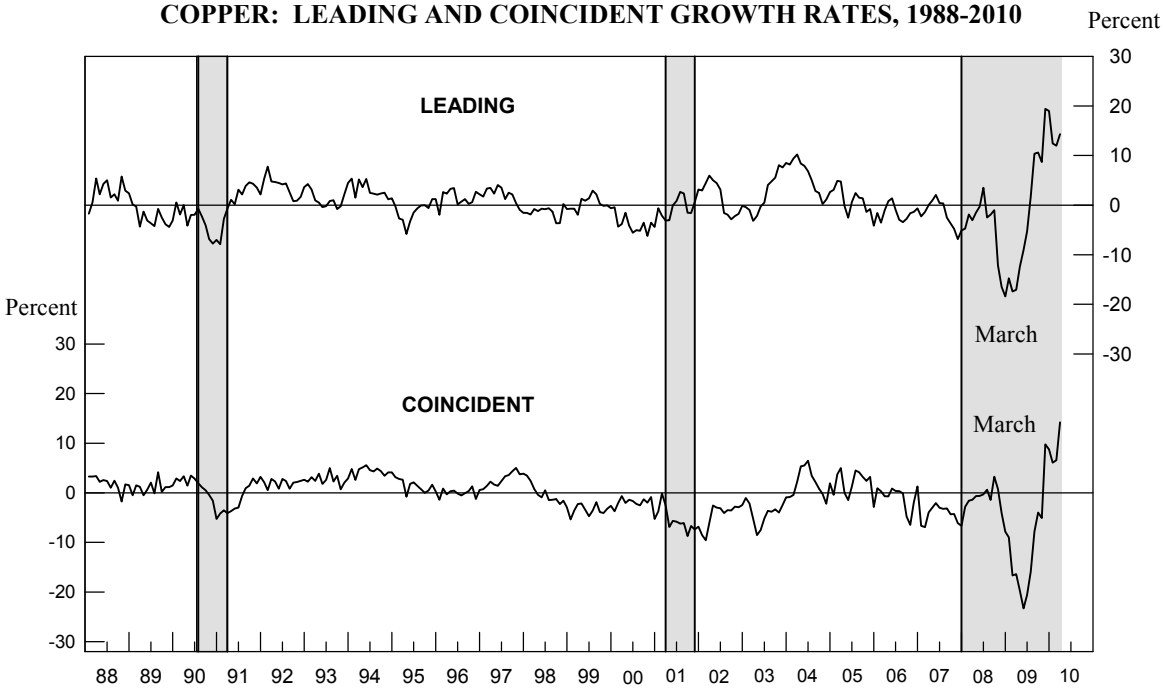
r: Revised NA: Not available

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1988-2010



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1988-2010

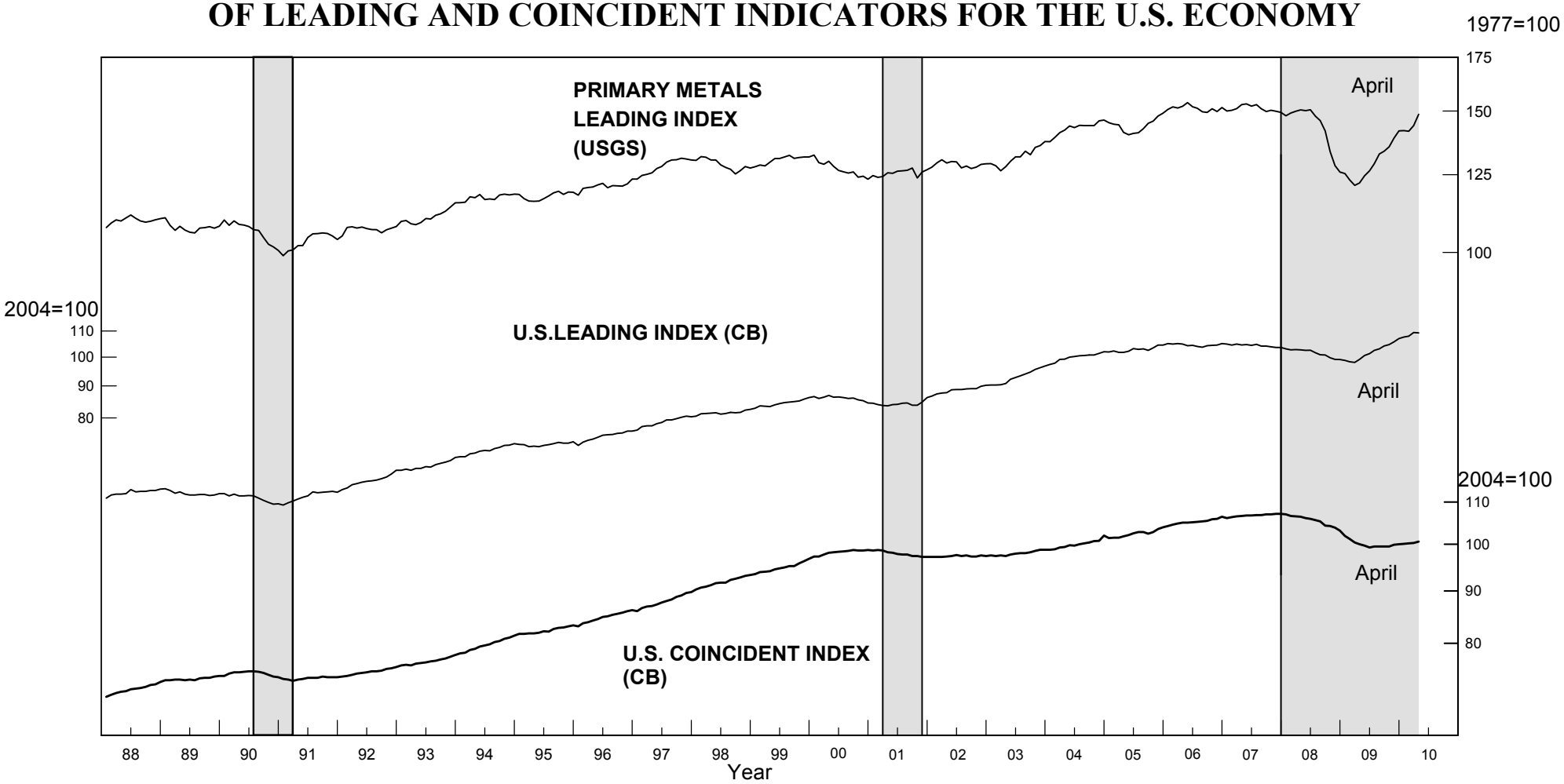


Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Chart 8.

PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

May 2010